

CME-associated Radio Bursts from Satellite Observations

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Coronal mass ejections (CMEs) are closely associated with various types of radio bursts from the Sun. All radio bursts are due to nonthermal electrons, which are accelerated during the eruption of CMEs. Radio bursts at frequencies below about 15 MHz are of particular interest because they are associated with energetic CMEs that contribute to severe space weather. The low-frequency bursts need to be observed primarily from space because of the ionospheric cutoff. The main CME-related radio bursts are associated are: type III bursts due to accelerated electrons propagating along open magnetic field lines, type II bursts due to electrons accelerated in shocks, and type IV bursts due to electrons trapped in post-eruption arcades behind CMEs. This paper presents a summary of results obtained during solar cycle 23 primarily using the white-light coronagraphic observations from the Solar Heliospheric Observatory (SOHO) and the WAVES experiment on board Wind. Particular emphasis will be placed on what we can learn about particle acceleration in the coronal and interplanetary medium by analyzing the CMEs and the associated radio bursts.